rheumatoid arthritis or instances of disease of the nervous system complicated with rheumatoid arthritis, or whether, in the third place, the changes discovered were artefacts or accidental conditions, cannot he positively asserted. It would he unwarranted to say that changes in the central nervous system are found with regularity in this disease, hut there can he little question that nervous changes of some sort are hahitual, as is evidenced hy the peculiar type of change in the joints themselves, which is progressive, painless, dystrophic, and hy the evident trophic alterations in the skin of the affected parts. Notwithstanding these considerations, however, certain investigators, notably in England, have claimed the discovery of micro-organisms in rheumatoid arthritis. These claims, however, do not merit serious consideration.

In connection with this matter, I may, perhaps, profitably call your attention to the fact that micro-organisms of different kinds frequently gain entrance to the tissues and invade practically all parts of the hody in the termioal stages of chronic diseases, so much so that a distinguished clinician has lacooically stated that chronic diseases terminate hy acute infection. In many instances in which the discovery of hacteria in the tissues has heen reported, this terminal infection would explain the presence of the organisms rather than a specific nature of the disease under investigation.

TWO CASES OF COMPLETE BILATERAL DUPLICATION OF THE URETERS.

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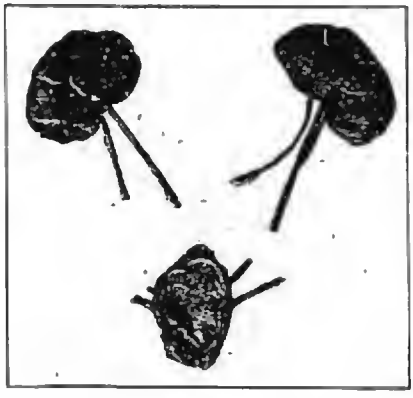
While anomalies of the ureter of one kidney are comparatively common, anomalies of the ureters of hoth kidneys are comparatively rare, and complete duplication of both ureters is very rare. By complete duplication is meant that hoth kidneys have each two ureters, and each ureter is separate throughout, having its own orifice in the hladder.

After a search through the literature only eight cases of complete hilateral duplication of the ureters were found. In collecting these cases we have excluded certain cases of bilateral duplication in which the duplication on one side was not complete, the ureters either joining together to form a single ureter, or having a common orifice in the hladder. The rarity with which the complete duplication has heen reported seems to he a reason for reporting two more cases.

Case I.—A child, aged six months, dead of marasmus. Autopsy hy Dr. J. H. Wright, Octoher 9, 1899. Each kidney had two pelves aad two ureters, which were separate throughout their lengths, each haviag its owa orifice in the hladder. One ureter oa each side had its orifice apparently in the normal position, while the other two ureters had their orifices nearer to the median line and nearer the prostatic urethra. One of the two pelves of each kidney was larger than the other. The kidneys proper were not remarkable.

Case II.—A woman, aged fifty years, dead of strangulated inguinal hernia. Autopsy hy Dr. J. H. Wright, March 19, 1902. Each kidney had two ureters and two pelves. The pelvis draining the inferior half of the left kidney was somewhat larger than that draining the superior

Fig. 1.

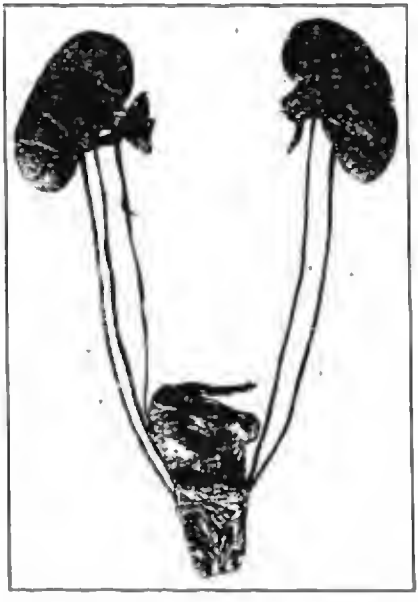


Case I.—Complete duplication of both ureters. (Photograph by L. S. Brown, Clinico-pathological Laboratory, Massachusetts General Hospital.)

half. The pelves of the other kidaey were of ahout equal size. All of the pelves were somewhat smaller than normal. The two ureters of each kidaey were separate and patent throughout, and each had its own orifice ia the hladder. All four ureters were of equal size and of a diameter somewhat smaller than normal. The orifices of the ureters of the right kidney were situated near, hut npparently ahove, the sitaatioa of the normal right ureteral orifice, and were about 7 mm. apart. The ureter from the inferior half of the right kidney had its orifice further from the median line. The orifices of the ureters of the left kidney were ahout 2 cm. apart. The orifice of the ureter which drained the inferior half of the left kidney was situated apparently u little ahove the situatioa of the normal ureteral orifice, while the orifice of the

ureter draining the superior half of the left kidney was nearer the prostatic urethra.

FIG. 2.



CASE II.—Complete duplication of both ureters. (Photograph by L. S. Brown, Clinico-pathological Laboratory, Massachusetts General Hospital.)

The right ovarian vein emptied into a large branch of the renal vein instead of into the vena cava. No special anomaly of the main renal artery was noted. The kidneys were 12½ and 13 cm. long, respectively.

The references to the eight cases found in the literature are as follows:

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